NATIONAL PRACTITIONER DATA BANK (NPDB)
AND
HEALTHCARE INTEGRITY AND PROTECTION DATA BANK (HIPDB)

ICD TRANSFER PROGRAM (ITP)
INSTALLATION INSTRUCTIONS

Version 1.07

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SUMMARY OF CHANGES – VERSION 1.07

Below is a summary of changes to the ICD Transfer Program (ITP) Installation Instructions version 1.07. Effective July 31, 2006, this document version 1.07 replaces version 1.06. The changes in this version are indicated below:

- Updated installation instructions. See Sections 2.2 and 2.3.
- Added the limitation note of the submission file name length. See Section 3.5.

SUMMARY OF CHANGES – VERSION 1.06

Below is a summary of changes to the ICD Transfer Program (ITP) Installation Instructions version 1.06. Effective May 8, 2006, this document version 1.06 replaces version 1.05. The changes in this version are indicated below:

- The Data Banks' Web site is now located at www.npdb-hipdb.hrsa.gov. The Data Banks are using a .gov domain name to help prevent fraud by showing Data Banks' users that the NPDB-HIPDB Web site is under the Government-run domain. Please update your Internet bookmarks to reference the .gov address for the Data Banks' Web site. NPDB-HIPDB Web site references in this document now refer to the new Web site address.
- Due to the NPDB-HIPDB Web site address change, all ITP and QRXS client programs must be upgraded to a new version. Updated client programs are now available on the NPDB-HIPDB Web site. While the current versions of the ITP and Querying and Reporting XML Service (QRXS) client programs will continue to function for a limited time, all ITP and QRXS users must upgrade their client program to the new version no later than September 18, 2006.
- Updated the commons-fileupload jar to version 1.1

SUMMARY OF CHANGES – VERSION 1.05

Below is a summary of changes to the ICD Transfer Program (ITP) Installation Instructions version 1.05. Effective October 17, 2005, this document version 1.05 replaces version 1.04. The changes in this version are indicated below:

- Updated the list of .jar files provided in the itp.zip file. See Sections 2.2 and 2.3.

SUMMARY OF CHANGES – VERSION 1.04

Below is a summary of changes to the ICD Transfer Program (ITP) Installation Instructions version 1.04. Effective October 17, 2005, this document version 1.04 replaces version 1.03. The changes in this version are indicated below:

- Updated installation instructions. See Sections 2.2 and 2.3.
- Added guidance for configuring the ITP client program for use with a proxy server. Users who have a previous version of the software and wish to take advantage of this additional

functionality must install the latest version of the ITP software. Users do not need to reinstall ITP if they do not wish to take advantage of the additional functionality. See Section 4.4.

- Removed unused Status Codes. See Section 3.3.

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1. INTRODUCTION

1.1 Scope

The National Practitioner Data Bank-Healthcare Integrity and Protection Data Bank (NPDB-HIPDB) provides the Interface Control Document Transfer Program (ITP) to users who wish to receive machine-readable responses. ITP is an alternative to the Integrated Querying and Reporting Service (IQRS) and is ideal for large volume queriers and reporters who wish to use their own transaction processing systems and want to interface those systems with the NPDB-HIPDB.

ITP is a stand-alone program that transmits ASCII text files containing query and report data to the NPDB-HIPDB and receives ASCII text file responses from the NPDB-HIPDB. For security, data is transmitted over a Secure Socket Layer (SSL) connection. This program can be executed as a stand-alone program, or it can be executed under the control of other programs.

Submission and response file formats are defined in interface control documents (ICD) published by the Data Banks, available on-line at *http://www.npdb-hipdb.hrsa.gov/itp.html*. The Data Banks make an effort to notify clients at least one month in advance of an update to code lists. Users should expect code lists to be updated quarterly. Additional updates to the file formats are required periodically. Users will be notified six months in advance of updates to ITP file formats. To receive e-mail notification of upcoming improvements, contact the Customer Service Center by e-mail at *npdb-hipdb@sra.com* or by phone at 1-800-767-6732 (TDD 703-802-9395).

New users are strongly encouraged to contact the Customer Service Center regarding their use of the ITP interface. Test submission files may be sent to the Customer Service Center for validation. The Data Banks will process your test file and return a response via e-mail. If you are using the ITP interface to submit queries, be aware that the ITP test database does contain several test reports. You may query on subjects identified in these reports and receive a matched query response to test your system. Copies of test reports are available on-line at *http://www.npdb-hipdb.hrsa.gov/itp.html*.

For additional information, visit the NPDB-HIPDB Web site at *http://www.npdb-hipdb.hrsa.gov/itp.html*. If you need assistance, contact NPDB-HIPDB Customer Service Center by e-mail at *npdb-hipdb@sra.com* or by phone at 1-800-767-6732 (TDD 703-802-9395). Information Specialists are available to speak with you weekdays from 8:30a.m. to 6:00p.m. (5:30p.m. on Fridays) Eastern Time. The NPDB-HIPDB Customer Service Center is closed on all Federal holidays.

1.2 Conventions

Names of files, URLs, parameters, example DBIDs, example passwords, or documents, are presented in italics.

http://java.sun.com/

Data that must be entered into the computer, commands you must enter, contents of files, and contents of directories, are presented in "Courier New."

```
java Itp send
```

Where the explicit use of upper or lower case letters are necessary due to the system interpreting upper and lower case letters as distinct characters, the text will clearly identify the command as "case sensitive."

2. INSTALLATION

2.1 System Requirements

1. Supported Microsoft Windows versions: Windows 98, Windows NT 4.0, Windows 2000, and Windows XP.

2. Access to the Internet and SSL port (443).

2.2 Software Requirements

1. JRE version JRE 1.5.0 or higher.

    The JRE can be downloaded from Sun's JRE download page:

    http://java.sun.com/javase/downloads

    Follow the instructions provided on the web page to download and install the JRE. Only the JRE is required; the JDK is not needed. If the default installation is followed, the JRE will install to a directory specific to the exact release number of Java. For example, if the release is at version 1.5.0_06, the default installation will create a directory named \Program Files\Java\j2re1.5.0_06.

2. The following files are provided in the *itp.zip* file available at *http://www.npdb-hipdb.hrsa.gov/itp.html*.

    commons-fileupload-1.1.jar
    commons-httpclient-2.0.jar
    commons-logging.jar
    itp.jar
    itp.ini
    ITP_Installation_Instructions.pdf

2.3 Software Installation

1. Install the JRE. Instructions are provided at Sun's JRE download page, referenced above.

2. Install the JAR files from the *itp.zip* distribution. Copy the .jar files (*itp.jar, commons-fileupload-1.1.jar, commons-httpclient-2.0.jar,* and *commons-logging.jar)* to the JRE's library extension directory. For example:

    ```
    C:\Program Files\Java\j2re1.5.0_06\lib\ext
    ```

3. Install the ITP initialization file. Copy the file *itp.ini* to the directory from which the ITP executes (your working directory, e.g., `c:\Itp`).

3. ITP CONFIGURATION AND EXECUTION

3.1 Executing ITP

The ITP takes one command-line parameter. The parameter determines if submission files are sent or response files are downloaded from the Data Bank(s). The parameter values are "send" or "receive." The following are the only supported ITP commands:

```
java Itp send      (for sending submission files); or
java Itp receive (for receiving response files).
```

Note: The program name and the command-line parameter values are case sensitive.

3.2 Preparing the Initialization File

On startup, the ITP reads *itp.ini* for initialization information. The *itp.ini* file resides in the working directory as described in Section 2.3 (Software Installation), Step 3. A sample *itp.ini* file is provided in the zip file. All the required information in the initialization file must be complete and valid. If the information is missing or invalid, the program terminates. Users may configure their own *itp.ini* files to reflect their desired log file location, upload/download directory locations, upload/download list file locations, and to specify use of a proxy server.

Certain characters such as spaces and slashes may be interpreted as instructions by the user's operating system or by the ITP software program. For this reason, the *itp.ini* file must be written in such a way that each character is interpreted literally, and not as an instruction. In order to accomplish this, characters that may be interpreted as instructions must be escaped; i.e., a backslash ("\") character is placed in front of the character that may be interpreted as an instruction. If you are unsure as to whether a character will be interpreted as an instruction by the operating system, use the escape character. In general, escaping characters which do not need to be escaped will not affect program execution; however, do not escape the equal sign which separates the parameter names from the parameter values.

The following is a sample *itp.ini* file:

```
DataBankIdNbr=123400000000123
Password=UuhUh5owKFEeue
DownloadDir=c:\\Itp\\download
UploadFile=upload.lst
TempDir=c:\\temp
ItpLogFile=itpinfo.log
DownloadListFile=icdfiles.lst
UserName=John\ Smith
```

Notes:
1. The parameters are case sensitive.

2. The password is encoded and must be set using a separate program included in the download. Instructions on setting the password are in Section 3.7 (Encode Password).

3. The backslash character itself must be escaped, because in this case it must be interpreted literally; this is the reason for the two backslashes in the directory values.

4. The parameters within the file may appear in any order. Some parameters are required while others are optional as shown in the table below. Users are encouraged to set all parameters to user-specific values.

The following parameters are allowed. Users must enter any parameters that they do not wish to use the default values for:

Parameters	Required?	Descriptions
DataBankIdNbr	Yes	The Data Bank Identification Number (DBID).
Password	Yes	Encoded Data Bank password (also known as the IQRS password).
DownloadDir	Yes	Directory to hold the downloaded ICD response files.
UploadFile	Yes	Name of the file containing one or more names of ICD submission files.
TempDir	No	Temporary work directory; defaults to the working directory if not set.
ItpLogFile	No	Program log file; defaults to *itp.log* if not set.
DownloadListFile	No	File containing names of the ICD response files downloaded; defaults to *download.lst.*
UserName	Yes	Unique name indicating the person operating the software.
ProxyHostName	No	Name of the proxy host (usually an IP Address). Only required when using a proxy server (see Section 4.4, Proxy Server for more information).
ProxyPort	No	Port number of the proxy server. Only required when using a proxy server (see Section 4.4, Proxy Server for more information).

Notes:
1. For parameter *DataBankIdNbr*, enter a Data Bank Identification Number (DBID). An entity would enter the entity's DBID. An agent would enter the agent's DBID whether it is representing itself or another entity.

2. For parameter *Password*, enter the password assigned by the Data Banks for the DBID specified for *DataBankIdNbr*. Passwords are not displayed as regular text but are encoded. Refer to Section 3.7 (Encode Password) for more information on how to set *Password* in the *itp.ini* file. Passwords expire every 90 days and must be changed through the Integrated Querying and Reporting Service (IQRS) at *http://www.npdb-hipdb.hrsa.gov*. The IQRS password is the same as the ITP password.

3. For parameters *UploadFile*, *ItpLogFile,* and *DownloadListFile*, acceptable values of the parameters include the file name only, or a path name and the file name. If the value is the file name only, then the file is assumed to be located in the working directory.

4. For parameters *DownloadDir* and *TempDir*, enter a directory path name for each, either a relative path to the working directory or a full path.

5. For parameter *UserName*, remember to include a backslash ("\") in front of a character that may be interpreted as an instruction.

6. For parameter *ItpLogFile*, this file contains program execution warnings and errors. To determine whether the send or receive operation was successful, the *itpstat.dat* file contains this information, refer to the Section 3.4 (ITP Status File).

3.3 Status Codes

The ITP provides status in two ways. First, an exit code is always returned; second, a file called *itpstat.dat*, which contains the status code, is created. This file is created in the program's working directory. A status code of "0" indicates that the transaction was successful, and a negative number status code indicates that the transaction failed.

The following status codes are returned:

Status Code	Description
0	Success, no errors
-1	Error on NPDB-HIPDB server, reattempt transfer
-4	Database error on NPDB-HIPDB server, reattempt transfer
-6	Database connection error on NPDB-HIPDB server, reattempt transfer
-8	Communication error with NPDB-HIPDB ICD server during response retrieval, reattempt transfer
-18	Error in downloaded response files, reattempt transfer
-19	Error in getting information from the downloaded file, reattempt transfer
-20	Unable to open downloaded file, check if sufficient disk space is available to download file and reattempt transfer
-21	Generic error code; used for failures not yet categorized
-22	Usage error, check command-line parameter
-23	Error in reading Initialization file *itp.ini*, check that *itp.ini* file is in working directory
-24	Unable to open program log file, check that disk space is available
-25	Error in username and password validation, check that the DBID and password are correct
-30	Error validating parameter in *itp.ini*, a parameter is missing or value is invalid
-31	Error validating *UploadFile*, upload file missing or a file listed in the upload file does not exist
-32	Error validating *DownloadDir*, directory does not exist

Status Code	Description
-40	Error opening connection to NPDB-HIPDB server, check internet connection and reattempt transfer
-41	Error getting input stream to NPDB-HIPDB server, check internet connection and reattempt transfer
-42	Error getting output stream from NPDB-HIPDB server, check internet connection and reattempt transfer
-50	Error reading status response from NPDB-HIPDB server, reattempt transfer
-51	Error processing web request, reattempt transfer
-52	Error getting status code, reattempt transfer
-53	Error sending submission files, reattempt transfer
-54	Error downloading response files, reattempt transfer
-55	Error moving response files to the download directory, no permission to write to the directory or the device has run out of space

3.4 ITP Status File

The *itpstat.dat* file contains the final status of the ITP execution. This file is created in the working directory immediately upon program completion. The file contains two lines. The first line indicates the overall status of "Done" or "Not Done." The second line contains a status code of "0" or a negative number (see Section 3.3, Status Codes, for error codes that may be returned).

Sample *itpstat.dat* file for a successful execution:

```
Overall status        = Done
StatusCode=0
```

Sample *itpstat.dat* file for an unsuccessful execution:

```
Overall status        = Not Done
StatusCode=-22
```

The *itpstat.dat* file is not referenced by a parameter in the *itp.ini* file. The name of this status file cannot be configured. However, the file can be removed or renamed anytime after the completion of the ITP program and will get re-created with each completion of subsequent ITP program executions.

3.5 Upload File

The upload file contains the names (including the full or relative path) of the submission files that are sent to the Data Bank(s). The name of the upload file must be specified in the *itp.ini* file, parameter *UploadFile*.

A sample upload file with four submission files to upload, using a full path:

```
c:\Itp\upload\icd0001.dat
c:\Itp\upload\icd0002.dat
c:\Itp\upload\icd0004.dat
c:\Itp\upload\icd0005.dat
```

A sample upload file with three submission files to upload, using a relative path:

```
upload\file001.dat
upload\file002.dat
upload\file003.dat
```

Notes:
1. In the upload file, the backslash is not escaped.

2. A file name can be specified with a relative or full path as noted above. Each set of files above is specified differently, but all the files are located in `c:\Itp\upload`, and the working directory is `c:\Itp`. Relative paths are specified in relation to the directory in which ITP executes; this is also referred to as the working directory.

3. Each submission file name must not exceed 30 characters in length. This limitation only applies to the file name itself and not the path.

4. The Data Banks do not recommend submitting files that are larger than 1MB.

3.6 Download Directory and Download List File

Response files are stored in the download directory after being successfully received from the Data Bank(s). The names of the files are in the following format: *msg#####.csm* (i.e., *msg00000.csm*, *msg00001.csm*). In addition to the data files, a separate file is provided that lists each file included in the download. By default, this file is named *download.lst*. Users may set the name of this file in the initialization file (*itp.ini*) using the parameter *DownloadListFile*.

The following is the content of a download list file that might be created:

```
c:\Itp\download\msg00000.csm
c:\Itp\download\msg00001.csm
c:\Itp\download\msg00002.csm
c:\Itp\download\msg00003.csm
```

Notes:

1. The files in the download directory are not overwritten. If files from a previous download exist, then the names of the files start after the last increment name (i.e., if *msg00054.csm* is the last increment, then the name of the new file starts with *msg00055.csm*).

2. The download list file is recreated on every successful download of response files. The download list file is not created if there are no response files to download or if there was an error downloading response files.

3. Report responses will always be returned in a single response file. Responses for query submissions containing multiple subjects may be returned in multiple response files if the response will exceed 1MB. Responses that are larger than 1MB are separated into 1MB portions. Users should read response files in numerical order.

4. Responses are available for download within an average of two to four hours after submission. Under certain circumstances, additional processing time may be required. Please do not re-submit your query or report on the subject in question, since this will result in duplicate transactions and duplicate fees. If your submission file is not formatted properly, the Data Banks may not be able to process the file. If you do not receive your response within 2 to 3 business days of submission, please call the NPDB-HIPDB Customer Service Center.

3.7 Encode Password

The password is encoded in the initialization file by executing the Encode program included in the download, and providing the password as a command-line parameter. The password is encoded and written to *itp.ini*; it is not displayed on the screen. The following is an example of how to execute the Encode program:

```
java Encode abcd121212
```

Notes:

1. The command and the password are case sensitive.

2. Encode may cause some characters to be escaped; this is denoted by a backslash in front of the escaped characters. This will not affect the functionality of the ITP.

4. SAMPLE CONFIGURATION AND EXECUTION

The following sections guide you through a sample configuration and execution of the ITP. This is only a sample configuration and may be changed if desired.

4.1 Configuration

The ITP is installed in the directory `c:\Itp` for entity DBID *399700000000123* (parameter *DataBankIdNbr*) with password *abcd121212* (parameter *Password*). The ITP initialization file is configured for the remaining parameters using:
- the download directory `c:\Itp\download` (parameter *DownloadDir*),
- temporary directory `c:\Itp\temp` (parameter *TempDir*),
- upload file *upldlist.fil* (parameter *UploadFile*),
- ITP log file *itperror.log* (parameter *ItpLogFile*),
- download list file *icdresp.fil* (parameter *DownloadListFile*), and
- the username *Bob Jones* (parameter *UserName*).

The ICD submission files for upload are located in the `c:\Itp\upload` directory. The user creates the three new directories:

```
cd Itp
mkdir temp
mkdir download
mkdir upload
```

The following is a listing of files in directory `c:\Itp`:

```
itp.ini
<DIR>   temp
<DIR>   download
<DIR>   upload
```

The working directory is `c:\Itp`. Encode the password by executing the following command:

```
java Encode abcd121212
```

The following is a printout of the *itp.ini* initialization file:

```
#Thu October 16 13:29:03 EDT 2003
DataBankIdNbr=399700000000123
Password=2MhEB2Fsue1I7eqJLDyI
DownloadDir=download
UploadFile=upldlist.fil
TempDir=temp
ItpLogFile=itperror.log
DownloadListFile=icdresp.fil
UserName=Bob\ Jones
```

Notes:
1. The order of parameters may vary; this is normal.

2. The backslash in the username escapes the space character; this is also normal. The escape appears after executing the encoding program.

4.2 Upload Submission Files

The submission files must first be uploaded to the Data Bank(s). Submission files *icd0001.dat, icd0002.dat*, *icd0004.dat*, and *icd0005.dat* are placed in the upload directory `c:\Itp\upload`. The upload file, *upldlist.fil*, is placed in the working directory `c:\Itp`. The following is a printout of *upldlist.fil*:

```
c:\Itp\upload\icd0001.dat
c:\Itp\upload\icd0002.dat
c:\Itp\upload\icd0004.dat
c:\Itp\upload\icd0005.dat
```

Execute the following command, either from the DOS prompt or from a user application, to upload files to the Data Bank(s). This command is case sensitive and must be executed exactly as shown here:

```
java Itp send
```

After execution of this command, the submission files are uploaded to the Data Bank(s) successfully. Files *itperror.log* and *itpstat.dat* are created in the working directory `c:\Itp`. The *itperror.log* file is empty because no errors were generated upon a successful upload. The *itpstat.dat* file indicates a successful status code of 0. The following is a printout of the *itpstat.dat* file that is created:

```
Overall status        = Done
StatusCode=0
```

4.3 Download Response Files

The response files may be downloaded after they have completed processing. To download response files, execute ITP in receive mode:

```
java Itp receive
```

The response files are first downloaded to a temporary directory, `c:\Itp\temp`, and then moved to the download directory, `c:\Itp\download`. The temporary directory is specified by the parameter *TempDir* and the download directory is specified by parameter *DownloadDir*. There are four response files to download; thus, the directory `c:\Itp\download` contains the following files:

```
msg00001.csm
msg00002.csm
msg00003.csm
msg00004.csm
```

The download list file *icdresp.fil* is created in the directory `c:\Itp`. The following is a printout of the *icdresp.fil* file:

```
c:\Itp\download\msg00001.csm
c:\Itp\download\msg00002.csm
c:\Itp\download\msg00003.csm
c:\Itp\download\msg00004.csm
```

In `c:\Itp`, *itperror.log* is appended to. If the file does not exist, it is created. Since the download was successful, no messages are logged. The status file *itpstat.dat* is also created in the directory `c:\Itp`. The following is a printout of the *itpstat.dat* file that is created:

```
Overall status        = Done
StatusCode=0
```

4.4 Proxy Server

A proxy server is a program that mediates requests between the local network and the workstations on them and the Internet beyond. Contact your network administrator for proxy server information. To enable ITP to work with proxy servers, the *itp.ini* file needs the parameters *ProxyHostName* (specifies the host name of the proxy server; usually an IP Address), and *ProxyPort* (specifies the port number the proxy server connects to). Once these parameters are set, sending and receiving from ITP proceeds as normal.

The following is a printout of the *itp.ini* initialization file for use with a Proxy Server:

```
DataBankIdNbr=123400000000123
Password=UuhUh5owKFEeue
DownloadDir=c:\\Itp\\download
TempDir=c:\\temp
UploadFile=upload.lst
ItpLogFile=itpinfo.log
DownloadListFile=icdfiles.lst
UserName=John\ Smith
ProxyHostName=111.111.111.111
ProxyPort=1000
```